

CABINET FOR ELECTRONIC EQUIPMENT

Background to the invention

This invention relates to cabinets for electronic equipment. The invention is particularly, although not exclusively, concerned with cabinets for computer equipment such as servers.

One object of the invention is to provide a novel form of cabinet construction, which is intrinsically strong and resistant to shock and vibration.

Summary of the invention

According to the invention, a metal cabinet for housing electronic equipment comprises:

- a) front and rear frames, each comprising a welded rectangular frame;
- b) a pair of top struts fastened between the front and rear frames at the top;
- c) a base panel fastened between the front and rear frames at the bottom;
- d) a pair of rectangular side panels fastened between the front and rear frames at the sides;
- e) a top cover, fastened to the tops of the front and rear frames and to the top struts; and
- f) a rear cover, fastened to the rear frame.

A cabinet constructed in accordance with the invention has a number of advantages. One advantage is that, because the front and rear frames are welded rather than bolted together as in conventional constructions, the cabinet is more rigid and resistant to shock and vibration.

Preferably, the side panels are flush with the edges of the front and rear frames, rather than covering the whole of the side of the cabinet. An advantage of this is that it means that the width of the side panels is less than the overall back-to-front depth of the cabinet. This is useful where the parts of the cabinet have to be manoeuvred through small openings during installation.

Brief Description of the Drawings

One cabinet in accordance with the invention will now be described by way of example with reference to the accompanying drawings.

Figure 1 shows parts of the cabinet before assembly.

Figures 2 and 3 show two successive stages in the construction of the cabinet.

Description of an embodiment of the invention

In this example, the cabinet is approximately 1800mm high, 600mm wide, and 850mm deep, and is intended to house a number of conventional rack-mounted computer modules.

Figure 1 shows the main parts of the cabinet, before assembly, as follows:

- Front and rear frames 10, 11.
- Top stays 12, 13.
- Base panel 14.
- Side panels 15, 16.
- Top cover 17.
- Rear cover 18.

The front and rear frames 10, 11 are each constructed from four elongated steel sections, welded together to form a rigid rectangular frame.

The cabinet is assembled as follows.

First, the front and rear frames 10, 11 are stood on end, and the top stays 12, 13 are fitted, linking the tops of the frames, using eight M6 X 16 cap head screws with plain and spring washers. The base panel 14 is then fastened to the bottoms of the frames, using eight M6 X 10 cap head screws with plain and spring washers.

Figure 2 shows the cabinet at this stage of assembly, viewed from the rear right hand corner.

Next, the side panels 15, 16 are fitted between the front and rear frames using M6 X 10 countersunk screws. The top cover 17 is fitted to the tops of the front and rear frames and the top stays, using M6 X 16 cap head screws with plain and spring washers. Rear cover 18 is similarly fitted to the rear frame.

Figure 3 shows the cabinet after these steps. The cabinet is now ready to receive any required fittings (not shown), such as power cables, patch panels, and so on.

It can be seen that each side panel is flush with the ends of the front and rear frames. As a result, the width of each side panel is less than the overall back-to-front depth of the cabinet. In this case, the side panels are 630mm wide, compared with the overall cabinet depth of 850mm. This is useful where the parts of the cabinet have to be manoeuvred through small openings during installation.

It can be also be seen that, because the front and rear frames are welded rather than bolted together as in conventional

constructions, the cabinet is more rigid and resistant to shock and vibration.

Some possible modifications

It will be appreciated that many modifications may be made to the system described above without departing from the scope of the present invention. For example, the cabinet may be of a different shape or size from that specified, and may be designed to house different types of equipment.